APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,637	03/31/2000	PAUL S. BRADLEY	1018.085US1	1780

7590   06/24/2003

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EXAMINER
LIANG, GWEN

ART UNIT	PAPER NUMBER
2172	

DATE MAILED: 06/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _21 April 2003_ .

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-7,10-14,16-18,20-22 and 24-28_ is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-7,10-14,16-18,20-22 and 24-28_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on _31 March 2000_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

     If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All b)☐ Some * c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____ .

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

     a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6) ☐ Other:

DETAILED ACTION

This action is responsive to communications: Amendment A, filed on 4/21/2003. Claims 1-7,

10-14, 16-18, 20-22 and 24-28 are pending. Claims 1, 10, 16, 20 and 28 are independent claims.

Claim Rejections - 35 USC § 101

1.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 10-14 are rejected under 35 U.S.C. 101 because the claimed invention is directed

to non-statutory subject matter.

With respect to claim 10, a "machine-readable medium" is not tangibly embodied in a

computer-readable medium, and hence non-statutory.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3.   Claims 20-22, 25 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Claim 20 recites the limitation "the plurality of descriptors" in line 4. There is

insufficient antecedent basis for this limitation in the claim.

Claim 25 recites the limitation "the particular ..." in lines 1-3. Since this claim is

dependent on a canceled claim, claim 8, there is insufficient antecedent basis for this limitation

in the claim.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

5.   Claims 1-7, 10-14, 16-18, 20-22 and 24-28 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Breeese et al., "Breeese" (Empirical Analysis of Predictive Algorithms for

Collaborative Filtering), and further in view of Lashkari et al., "Lashkari" (EP Patent No.

0,751,471).

With respect to claim 1, Breeese discloses a method comprising:

consolidating data organized into records and items, such that each record has a value for

each item, into a plurality of groups (See for example: Section 2.1 Memory-Based Algorithms,

wherein the user database consists of a set of votes $V i,j$, corresponding to the vote for user i on

item j; therefore it is obvious that the data is organization into records (corresponding to users)

and items and each record has a value (e.g. vote) for each item; Section 2.3.1 Cluster Models,

paragraph 1, wherein the prediction is derived from a database of user votes from a sample or

population of other users, which illustrates the existence of plurality of groups in the database.)

based on the plurality of groups, determining a predicted vote for a particular record and a

particular item using a similarity scoring, approach (See for example: Section 1. Introduction,

paragraph 1, wherein the preference patterns of other users who have similar interests are used to

find content of interest to a user; Section 2. Collaborative filtering Algorithms, paragraph 1;

Section 2.1 Memory-Based Algorithms.); and,

outputting the predicted vote for the particular record and the particular item (See for

example: Section 3.1 Evaluation Criteria paragraphs 1-3, wherein each piece of content has an

associated estimated rating,, and the user interface displays this estimate.)

However Breeese does not explicitly teach "a similarity scoring approach that reflects

likelihood similarity between at least one group of the plurality of groups and the particular record".

Lashkari teaches a similarity scoring approach that reflects likelihood similarity between at

least one group of the plurality of groups and the particular record (See for example: page 2 lines 35-

38, wherein using similarity factors, a set of neighboring users (equivalent to "a group of users") is

selected for each user (equivalent to "a particular record"); page 8 lines 21-26.)

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to incorporate a similarity scoring approach that reflects likelihood similarity

between at least one group of the plurality of groups and the particular record as disclosed in

Lashkari into the similarity scoring, approach as taught in Breeese to make recommendation for

an item to a user by using the weights and the ratings given to items by the neighboring users

(equivalent to the group assigned to the user record), (See for example, page 2 lines 37-38). One

of ordinary skill in the art would be motivated to make the aforementioned combination with

reasonable expectation of success.

Claim 2 is rejected for the reasons set forth hereinabove for claim 1 and furthermore

Breeese teaches a method wherein consolidating the data into the plurality of groups comprises

consolidating the data into a plurality of clusters (See for example: Section 2.3.1 Cluster Models, paragraph 1).

Claim 3 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein consolidating the data into the plurality of groups comprises consolidating the data into a plurality of descriptors (See for example: Section 2.2.1 Default Voting, paragraph 3; Section 3.1 Evaluation Criteria, paragraphs 6 and 7; Section 3.2 Datasets, paragraph 3).

Claim 4 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein each record is referred to as at least one of: a row, and a user (See for example: Section 2 Collaborative Filtering Algorithms, paragraph 2; Section 2.1 Memory-Based Algorithms; Section 2.1.2 Vector Similarity).

Claim 5 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein each item is referred to as at least one of: a column, and a dimension (See for example: Section 2 Collaborative Filtering Algorithms, paragraph 2; Section 2.1 Memory-Based Algorithms).

Claim 6 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein each record comprises a user, and each item comprises a product, such that determining the predicted vote for the particular record and the particular item comprises determining whether a particular user will purchase a particular product (See for example: Abstract, paragraph 1; Section 2 Collaborative Filtering Algorithms, paragraph 1).

Claim 7 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Lashkari teaches a method wherein wherein each record comprises a user, and each item

comprises a web page, such that determining the predicted vote for the particular record and the particular item comprises determining whether a particular user will view a particular web page (See for example: page 5 lines 14-18).

Claims 10 and 11, 13, 14, 15 are rejected on grounds corresponding to the reasons given above for claims 1, 4, 5, 8, 9.

Claim 12 is rejected on grounds corresponding to the reasons given above for claims 2 and 3.

Claims 16, 17 are rejected on grounds corresponding to the reasons given above for claims 1, 6.

Claims 18, 22 are rejected on grounds corresponding to the reasons given above for claim 7.

Claim 20 is rejected for the reasons set forth hereinabove for claim 16 and furthermore Lashkari teaches a method wherein a predicted vote is based on descriptors (See for example: page 5 line 53 – page 6 line 1, wherein the integers between 1 and 7 are equivalent to descriptors).

Claims 21 is rejected on grounds corresponding to the reasons given above for claim 6.

Claim 24 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Lashkari teaches a method wherein the particular record is contained within the records that are organized into groups and wherein a probability that a given group contains the particular record is used to reflect likelihood similarity (See for example: page 3 lines 19-24).

Claims 25-27 are rejected on grounds corresponding to the reasons given above for claim 24.

Claim 28 is rejected on grounds corresponding to the reasons given above for claim 1.

Response to Arguments

6.   Applicant's arguments regarding claims 1-7, 10-14, 16-18, 20-22 and 24-28 are moot based on the new grounds of rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.
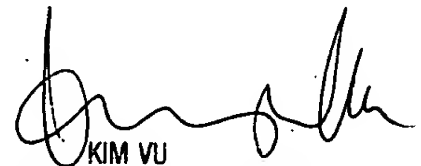
Contact Information

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to GWEN LIANG whose telephone number is 703-305-3985. The

examiner can normally be reached on 9:00 A.M. - 5:30 P.M. Monday and Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, KIM VU can be reached on (703) 305-4393. The fax phone numbers for the

organization where this application or proceeding is assigned are 703-746-7239 for regular

communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 703-305-3900.

G.L.
June 16, 2003

KIM VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100